<u>RAW SEQUENCE LISTING</u>

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/565,418_
Source: _IFWP_
Date Processed by STIC: _1-30-06_

ENTERED

IFWP

RAW SEQUENCE LISTING   DATE: 01/30/2006
PATENT APPLICATION: US/10/565,418   TIME: 15:54:11

Input Set : **A:\ITR0065YP SEQLIST.TXT**
Output Set: **N:\CRF4\01302006\J565418.raw**

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 4 <110> APPLICANT: Monaci, Paolo
 5        Gallo, Pasquale
 6        Nuzzo, Maurizio
 8 <120> TITLE OF INVENTION: SYNTHETIC GENE ENCODING HUMAN EPIDERMAL
 9        GROWTH FACTOR 2/NEU ANTIGEN AND USES THEREOF
12 <130> FILE REFERENCE: ITR0065YP
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C--> `14 <140> CURRENT APPLICATION NUMBER: US/10/565,418`
C--> `14 <141> CURRENT FILING DATE: 2006-01-23`
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14 <150> PRIOR APPLICATION NUMBER: PCT/EP2004/008234
15 <151> PRIOR FILING DATE: 2004-04-20
17 <150> PRIOR APPLICATION NUMBER: 60/489,237
18 <151> PRIOR FILING DATE: 2003-07-21
20 <160> NUMBER OF SEQ ID NOS: 14
22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 3768
26 <212> TYPE: DNA
27 <213> ORGANISM: Artificial Sequence
29 <220> FEATURE:
30 <223> OTHER INFORMATION: HER2opt
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35 acccacctgg acatgctgcg ccacctgtac cagggctgcc aggtggtgca gggcaacctg 180
36 gagctgacct acctgcccac caacgccagc ctgagcttcc tgcaggacat ccaggaggtg 240
37 cagggctacg tgctgatcgc ccacaaccag gtgcgccagg tgcccctgca gcgcctgcgc 300
38 atcgtgcgcg gcacccagct gttcgaggac aactacgccc tggccgtgct ggacaacggc 360
39 gaccccctga acaacaccac ccccgtgacc ggcgccagcc ccggcggcct gcgcgagctg 420
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53 gagaccctgg aggagatcac cggctacctg tacatcagcg cctggcccga cagcctgccc 1260
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97 <210> SEQ ID NO: 2
98 <211> LENGTH: 1255
99 <212> TYPE: PRT
100 <213> ORGANISM: Homo Sapiens, HER2
102 <400> SEQUENCE: 2
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104 1               5                   10                  15
105 Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys
```

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106           20              25              30
107 Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His
108       35              40              45
109 Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr
110       50              55              60
111 Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ile Gln Glu Val
112 65              70              75              80
113 Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu
114               85              90              95
115 Gln Arg Leu Arg Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr
116           100             105             110
117 Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro
118       115             120             125
119 Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser
120       130             135             140
121 Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln
122 145             150             155             160
123 Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn
124               165             170             175
125 Asn Gln Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys
126           180             185             190
127 His Pro Cys Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser
128       195             200             205
129 Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys
130       210             215             220
131 Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys
132 225             230             235             240
133 Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu
134               245             250             255
135 His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val
136           260             265             270
137 Thr Tyr Asn Thr Asp Thr Phe Glu Ser Met Pro Asn Pro Glu Gly Arg
138       275             280             285
139 Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro Tyr Asn Tyr Leu
140       290             295             300
141 Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln
142 305             310             315             320
143 Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys
144               325             330             335
145 Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu
146           340             345             350
147 Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys
148       355             360             365
149 Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp
150 370             375             380
151 Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe
152 385             390             395             400
153 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro
154               405             410             415
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155 Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg
156             420             425             430
157 Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu
158         435             440                 445
159 Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly
160     450             455                 460
161 Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val
162 465             470                 475                 480
163 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr
164             485             490                 495
165 Ala Asn Arg Pro Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His
166         500             505                 510
167 Gln Leu Cys Ala Arg Gly His Cys Trp Gly Pro Gly Pro Thr Gln Cys
168         515             520                 525
169 Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys Val Glu Glu Cys
170     530             535                 540
171 Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys
172 545             550                 555                 560
173 Leu Pro Cys His Pro Glu Cys Gln Pro Gln Asn Gly Ser Val Thr Cys
174             565             570                 575
175 Phe Gly Pro Glu Ala Asp Gln Cys Val Ala Cys Ala His Tyr Lys Asp
176             580             585                 590
177 Pro Pro Phe Cys Val Ala Arg Cys Pro Ser Gly Val Lys Pro Asp Leu
178         595             600                 605
179 Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu Gly Ala Cys Gln
180     610             615                 620
181 Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys
182 625             630                 635                 640
183 Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Ile Ile Ser
184             645             650                 655
185 Ala Val Val Gly Ile Leu Leu Val Val Val Leu Gly Val Val Phe Gly
186         660             665                 670
187 Ile Leu Ile Lys Arg Arg Gln Gln Lys Ile Arg Lys Tyr Thr Met Arg
188         675             680                 685
189 Arg Leu Leu Gln Glu Thr Glu Leu Val Glu Pro Leu Thr Pro Ser Gly
190     690             695                 700
191 Ala Met Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Glu Leu
192 705             710                 715                 720
193 Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys
194             725             730                 735
195 Gly Ile Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val Ala Ile
196             740             745                 750
197 Ala Val Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu
198         755             760                 765
199 Asp Glu Ala Tyr Val Met Ala Gly Val Gly Ser Pro Tyr Val Ser Arg
200     770             775                 780
201 Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val Thr Gln Leu
202 785             790                 795                 800
203 Met Pro Tyr Gly Cys Leu Leu Asp His Val Arg Glu Asn Arg Gly Arg
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RAW SEQUENCE LISTING   DATE: 01/30/2006
PATENT APPLICATION: US/10/565,418   TIME: 15:54:11

Input Set : A:\ITR0065YP SEQLIST.TXT
Output Set: N:\CRF4\01302006\J565418.raw

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206                 820                 825                 830
207 Met Ser Tyr Leu Glu Asp Val Arg Leu Val His Arg Asp Leu Ala Ala
208             835                 840                 845
209 Arg Asn Val Leu Val Lys Ser Pro Asn His Val Lys Ile Thr Asp Phe
210     850                 855                 860
211 Gly Leu Ala Arg Leu Leu Asp Ile Asp Glu Thr Glu Tyr His Ala Asp
212 865                 870                 875                 880
213 Gly Gly Lys Val Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu Arg
214                 885                 890                 895
215 Arg Arg Phe Thr His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val
216             900                 905                 910
217 Trp Glu Leu Met Thr Phe Gly Ala Lys Pro Tyr Asp Gly Ile Pro Ala
218             915                 920                 925
219 Arg Glu Ile Pro Asp Leu Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro
220     930                 935                 940
221 Pro Ile Cys Thr Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met
222 945                 950                 955                 960
223 Ile Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu Phe
224             965                 970                 975
225 Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn Glu
226             980                 985                 990
227 Asp Leu Gly Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser Leu
228     995                 1000                1005
229 Leu Glu Asp Asp Asp Met Gly Asp Leu Val Asp Ala Glu Glu Tyr Leu
230     1010                1015                1020
231 Val Pro Gln Gln Gly Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala Gly
232 1025                1030                1035                1040
233 Gly Met Val His His Arg His Arg Ser Ser Ser Thr Arg Ser Gly Gly
234             1045                1050                1055
235 Gly Asp Leu Thr Leu Gly Leu Glu Pro Ser Glu Glu Glu Ala Pro Arg
236             1060                1065                1070
237 Ser Pro Leu Ala Pro Ser Glu Gly Ala Gly Ser Asp Val Phe Asp Gly
238     1075                1080                1085
239 Asp Leu Gly Met Gly Ala Ala Lys Gly Leu Gln Ser Leu Pro Thr His
240     1090                1095                1100
241 Asp Pro Ser Pro Leu Gln Arg Tyr Ser Glu Asp Pro Thr Val Pro Leu
242 1105                1110                1115                1120
243 Pro Ser Glu Thr Asp Gly Tyr Val Ala Pro Leu Thr Cys Ser Pro Gln
244             1125                1130                1135
245 Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Gln Pro Pro Ser Pro
246             1140                1145                1150
247 Arg Glu Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu
248             1155                1160                1165
249 Arg Pro Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val
250     1170                1175                1180
251 Phe Ala Phe Gly Gly Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro Gln
252 1185                1190                1195                1200
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VERIFICATION SUMMARY   DATE: 01/30/2006
PATENT APPLICATION: **US/10/565,418**   TIME: 15:54:12

Input Set : **A:\ITR0065YP SEQLIST.TXT**
Output Set: **N:\CRF4\01302006\J565418.raw**

L:14 M:270 C: Current Application Number differs, Replaced Current Application No
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date